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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,418	05/09/2002	Matthew Morell	127-01	1169
23713	7590	10/16/2003	EXAMINER	
GREENLEE WINNER AND SULLIVAN P C 5370 MANHATTAN CIRCLE SUITE 201 BOULDER, CO 80303			MEHTA, ASHWIN D	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,418	MORELL ET AL.	
	Examiner	Art Unit	
	Ashwin Mehta	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-66 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5, 7, 8, 10, 11, 33-38, 41-46, drawn to an isolated nucleic acid molecule set forth in SEQ ID NO: 1 or the protein-encoding region thereof or a degenerate nucleotide sequence thereto; a probe or primer from said nucleotide sequence; a plant, or progeny or propagule thereof, carrying said nucleic acid molecule as an exogenous complement in its genome; a gene construct or vector comprising said nucleic acid molecule; a method of modifying the starch content and/or starch composition of one or more tissues or organs of a plant, comprising expressing in said plant said nucleic acid molecule.

Group II, claim(s) 1-5, 7, 8, 10, 11, 33-38, 41-46, drawn to an isolated nucleic acid molecule set forth in SEQ ID NO: 3 or the protein-encoding region thereof or a degenerate nucleotide sequence thereto; a probe or primer from said nucleotide sequence; a plant, or progeny or propagule thereof, carrying said nucleic acid molecule as an exogenous complement in its genome; a gene construct or vector comprising said nucleic acid molecule; a method of modifying the starch content and/or starch composition of one or more tissues or organs of a plant, comprising expressing in said plant said nucleic acid molecule.

Group III, claim(s) 1-5, 7, 8, 10, 11, 33-38, 41-46, drawn to an isolated nucleic acid molecule set forth in SEQ ID NO: 5 or the protein-encoding region thereof or a degenerate nucleotide sequence thereto; a probe or primer from said nucleotide sequence; a plant, or progeny or propagule thereof, carrying said nucleic acid molecule as an exogenous complement in its genome; a gene construct or vector comprising said nucleic acid molecule; a method of modifying the starch content and/or starch composition of one or more tissues or organs of a plant, comprising expressing in said plant said nucleic acid molecule.

Group IV, claim(s) 1-4, 6, 7, 9, 10, 11, 33-38, 41-46, drawn to an isolated nucleic acid molecule set forth in SEQ ID NO: 7, 9, 11-16, and 38, or the protein-encoding region thereof or a degenerate nucleotide sequence thereto; a probe or primer from said nucleotide sequence; a plant, or progeny or propagule thereof, carrying said nucleic acid molecule as an exogenous complement in its genome; a gene construct or vector comprising said nucleic acid molecule; a

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method of modifying the starch content and/or starch composition of one or more tissues or organs of a plant, comprising expressing in said plant said nucleic acid molecule.

Group V, claim(s) 1-5, 7, 10, 11, 33-38, 41-46, drawn to an isolated nucleic acid molecule set forth in SEQ ID NO: 37 or the protein-encoding region thereof or a degenerate nucleotide sequence thereto; a probe or primer from said nucleotide sequence; a plant, or progeny or propagule thereof, carrying said nucleic acid molecule as an exogenous complement in its genome; a gene construct or vector comprising said nucleic acid molecule; a method of modifying the starch content and/or starch composition of one or more tissues or organs of a plant, comprising expressing in said plant said nucleic acid molecule.

Group VI, claim(s) 12-16, 18, 19, 21, drawn to an isolated or recombinant polypeptide, protein or enzyme comprising an amino acid sequence set forth in SEQ ID NO: 2 or the mature protein region thereof.

Group VII, claim(s) 12-16, 18, 19, 21, drawn to an isolated or recombinant polypeptide, protein or enzyme comprising an amino acid sequence set forth in SEQ ID NO: 4 or the mature protein region thereof.

Group VIII, claim(s) 12-16, 18, 19, 21, drawn to an isolated or recombinant polypeptide, protein or enzyme comprising an amino acid sequence set forth in SEQ ID NO: 6 or the mature protein region thereof.

Group IX, claim(s) 12-16, 18, 19, 21, drawn to an isolated or recombinant polypeptide, protein or enzyme comprising an amino acid sequence set forth in SEQ ID NO: 8 and 10, or the mature protein region thereof.

Group X, claim(s) 22-27, drawn to a method comprising hybridizing single-stranded or double-stranded mRNA, cDNA or genomic DNA, and a method for assaying for the presence or absence of wheat starch synthase polypeptide in a plant.

Group XI, claim(s) 22-25 and 28-32, drawn to method comprising hybridizing single-stranded or double-stranded mRNA, cDNA or genomic DNA, and a method for marker-assisted breeding and/or selection of a plant.

Group XII, claim(s) 39 & 40, drawn to an isolated promoter sequence comprising nucleotides 1-287 of SEQ ID NO: 11.

Group XIII, claim(s) 39 & 40, drawn to an isolated promoter sequence comprising nucleotides 1-1416 of SEQ ID NO: 37.

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Group XIV, claim(s) 39 & 40, drawn to an isolated promoter sequence comprising nucleotides 1-973 of SEQ ID NO: 38.

Group XV, claim(s) 47-53 and 60-62, drawn to a modified starch and a food product comprising said modified starch.

Group XVI, claim(s) 54-59 and 63-66, drawn to a modified protein and a non-food product comprising said modified protein.

The inventions listed as Groups I-XVI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the inventions of Groups I-V are drawn to distinct nucleotide sequences that encode distinct protein products, and a method of using the nucleotide sequences, and are not shared with each other. The inventions of Groups VI-VIII are directed to distinct amino acid sequences that are not shared with each other. The nucleotide sequences of each of Groups I-V are not shared with the proteins of Groups VI-IX. Further, the nucleotide and amino acid sequences of each of Groups I-IX can be produced by alternative means, such as chemical synthesis. The method of modifying starch content of Groups I-V is not shared with the method of hybridizing of Groups X and XI, the method of assaying for the presence of wheat starch synthase of Group X, or the method for marker assisted breeding of Group XI. The method for assaying for the presence of wheat sucrose synthase of Group X is not shared with the method for marker assisted breeding of Group XI. The non-promoter sequences of the nucleic acid sequences of Groups I-V are not shared with the promoter sequences of Groups XII-XIV. The nucleotide sequences and methods of Groups I-V are not shared with the modified starch and food product of Group XV or the modified protein and non-food product of Group XVI.

A telephone call was made to Donna Ferber on October 8, 2003 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

October 9, 2003

A handwritten signature in black ink, appearing to read 'Ashwin D. Mehta', is written over a horizontal line.

Ashwin D. Mehta, Ph.D.
Primary Examiner
Art Unit 1638